

**REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)**

RECEIVED		In re Accession of	
MAY 25 2001		Accession Number	Filed
		975750	Nov. 13, 92
File Information Unit		Group AF Unit	Examiner

Assistant Commissioner for Patents  
Washington, DC 20231

I hereby request access under 37 CFR 1.14(a)(2)(ii) to the accession file record of the above-identified ABANDONED application, which is: 10/136,625, dated

(A) referred to in United States Patent Number 5851999 column \_\_\_\_\_

(B) referred to in an application that is open to public inspection as set forth in 37 CFR 1.11, i.e., Application No. \_\_\_\_\_ filed \_\_\_\_\_ on page \_\_\_\_\_ of paper number \_\_\_\_\_

(C) an application that claims the benefit of the filing date of an application that is open to public inspection, i.e., Application No. \_\_\_\_\_ filed \_\_\_\_\_ or

(D) an application in which the document has filed an application to lay open the complete application to the public.

Please direct any correspondence concerning this request to the following address:

RECEIVED	
MAY 25 2000	
May 25 00	
File Information Unit	



# United States Patent [19]

Ullrich et al.

[11] Patent Number: 5,851,999

[45] Date of Patent: Dec. 22, 1998

#13

[54] **FLK-1 IS A RECEPTOR FOR VASCULAR  
ENDOTHELIAL GROWTH FACTOR**

[56] **References Cited**

## PUBLICATIONS

Ueno et al (1991) *Science* 252: 844-848.

Ueno et al (1992) *J. Biol. Chem.* 267: 1470-1476.

[75] Inventors: **Axel Ullrich, München; Werner Risau, Grafelting; Birgit Millauer, München, all of Germany; Aviv Gazit; Alex Levitzki, both of Jerusalem, Israel**

*Primary Examiner*—Bruce R. Campbell  
*Attorney, Agent, or Firm*—Pennie & Edmonds LLP

[73] Assignees: **Max-Planck-Gesellschaft zur Förderung der Wissenschaften ev., Martinsried, Germany; Yissum Research, Development Company of the Hebrew University of Jerusalem, Jerusalem, Israel**

[57] **ABSTRACT**

The present invention relates to the use of ligands for the FLK-1 receptor for the modulation of angiogenesis and vasculogenesis. The invention is based, in part, on the demonstration that Flk-1 tyrosine kinase receptor expression is associated with endothelial cells and the identification of vascular endothelial growth factor (VEGF) as the high affinity ligand of Flk-1. These results indicate a major role for Flk-1 in the signaling system during vasculogenesis and angiogenesis. Engineering of host cells that express Flk-1 and the uses of expressed Flk-1 to evaluate and screen for drugs and analogs of VEGF involved in Flk-1 modulation by either agonist or antagonist activities is described. The invention also relates to the use of FLK-1 ligands, including VEGF agonists and antagonists, in the treatment of disorders, including cancer, by modulating vasculogenesis and angiogenesis.

[21] Appl. No.: 443,861

[22] Filed: May 22, 1995

## Related U.S. Application Data

[60] Division of Ser. No. 193,829, Feb. 9, 1994, which is a continuation-in-part of Ser. No. 38,596, Mar. 26, 1993, abandoned, which is a continuation-in-part of Ser. No. 973,750, Nov. 13, 1992, abandoned.

[51] Int. Cl. 6 ..... A61K 48/00; C12N 5/00;  
C12N 15/00

[52] U.S. Cl. ..... 514/44; 424/93.2; 435/320.1

[58] Field of Search ..... 514/44; 435/69.1;  
435/172.3, 320.1, 252-3, 361, 375; 424/93.2;  
935/57, 70, 71, 32

32 Claims, 25 Drawing Sheets